

Reviewed by Dan Drost, June 2010

Celery in the Garden

Brandon West and Dan Drost

Summary

Celery grows to a height of 18 to 24 inches and is composed of leaf topped stalks arranged in a cone that are joined at a common base. The stalks have a crunchy texture and a delicate, but mildly salty taste. It is a biennial vegetable that belongs to the Umbelliferae family whose other members include carrots, fennel, parsley and dill. While many people associate celery with its prized stalks, the leaves and roots can also be used as a food or seasoning as well as a natural medicine.

Recommended Varieties

Utah and Pascal are two varieties that remain green when ready for eating and are considered to be the finest quality.

How to Grow

Soils: Celery prefers fertile, well drained, organic sandy soils with lots of organic matter for best growth. Most Utah soils will grow celery with proper site preparation.

Soil Preparation: Celery has a small root system and is a poor nutrient forager, so there needs to be a good supply of nutrients in the soil. Before planting, incorporate 2-4 inches of well-rotted manure, organic matter or compost, and a complete fertilizer (16-16-8) at a rate of 2 lbs per 100 square feet. Work the compost and fertilizer into the soil to a depth of 6-8 inches, then smooth the surface for planting.

Plants: Celery is generally transplanted. Transplants should have 3-4 mature leaves and a well established root system, before they are planted in the garden. In areas with very long growing seasons, seed may be planted directly in the garden and later transplanted at the appropriate spacing.

Planting and Spacing: Celery is started from seed planted around February 1st and then transplant to

the garden in late April or early May depending on your area. Space the rows 2 feet apart and the plants 12 inches apart in the row. A tight planting helps force tall growth and long petioles.

Mulches

: Black plastic mulch warms the soil, conserves soil water and helps control weeds. Plastic mulches allow earlier planting which is necessary for a crop such as celery. You can also mulch with compost to control weeds and help retain moisture.

Row Covers: Hot caps, plastic tunnels and fabric covers will protect young transplants from frost and cooler temperatures. Row covers also stimulate early growth and bigger plants. Celery is very susceptible to early and late season frosts so some protection is advisable.

Water: Good watering is essential to successful celery production. Celery needs at least 1 to 2 inches of water from rainfall or irrigation each week during the growing season. Always soak the soil thoroughly when watering because celery has a small, shallow root system. Any water stress during the year causes the stalks to become stringy and gives them a strong flavor. Celery is crisper and more tender if watered regularly especially prior to harvesting. One of the most efficient ways to water celery is to use drip irrigation.

Fertilization: In addition to the fertilizer used at planting, celery responds to additional fertilizer to produce optimum yields. Apply a side dressing of a complete fertilizer at a rate of 2 pounds per 100 square



feet 6 weeks after transplanting and with nitrogen at ½ lb (46-0-0) per 100 square feet 4 weeks later.

Frequent, shallow cultivation will control weeds and keep the soil surface loose. The roots of the celery are very close to the surface, so do not cultivate too deeply. Organic mulches will keep weed growth in check and help retain soil moisture.

Problems

Weeds: Due to celery’s slow growth and small root system, it does not compete well with weeds.

Insects and Diseases:

Insects	Identification	Control
Aphids	Green or black soft-bodied insects that feed on underside of leaves. Leaves become crinkled and curled.	Use insecticidal soaps, appropriate insecticides, or strong water stream to dislodge insects.
Diseases		
Powdery Mildew	White fungal patches start on older leaves which will eventually die. The disease eventually spreads to all plant parts.	Plant resistant varieties. Use appropriate fungicides for control and water so the leaves have time to dry during the day.
Black Heart	Discoloration of the young leaves in the center of the plant. Affected tissue turns black and dies. Injury occurs gradually and is not visible until later in the season. This nutrient imbalance is due to a localized deficiency of calcium which is essential for cell development.	Control black heart applying calcium rich fertilizers to the soil. Use bone meal, blood meal, or calcium sprays. Avoiding water stress is a good way to minimize this problem.

Harvest and Storage

Harvest celery stalks by removal of the outer petioles when they are a foot or more in length. Whole plants are ready to use when they are 3 inches or more in diameter. The inner stalks are the most tender and taste the best uncooked. Celery harvested in hot, dry weather may be tough, stringy, and bitter. Store harvested celery in the refrigerator for up to 2 weeks.

Productivity

Plant 5-10 celery plants per person for fresh and storage purposes.

Nutrition

Celery has no calories and is a source of important vitamins and minerals. Celery has been

reported to reduce blood pressure, support the immune system, lower cholesterol, and help prevent cancer.

Frequently Asked Questions:

Q. My celery has a black spot in the center of the plant, what is it? This is called blackheart. Refer to the disease section above for treatment.

Q. What temperatures are best for celery? The minimum temperature for celery is 36°F, but if exposed to cool temperatures for several weeks the plants will flower. The ideal temperature is 55-65°F. When temperatures go above 85°F, water the plants more frequently to minimize stress and fiber development.

Q. Why doesn't my celery seed germinate uniformly? Celery germinates better if you soak the seeds in water and change the water every day. The seed contains natural germination inhibitors that soaking helps leach away.

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran’s status. USU’s policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions.

Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran’s status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities.

This publication is issued in furtherance of Cooperative Extension work. Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Noelle E. Cockett, Vice President for Extension and Agriculture, Utah State University. (HG/Garden/2006-03pr)